CLAIMS:

1-4. (cancelled)

5. (currently amended) A frame transmitting device comprising:

a clock for generating a reference clock timing;

a frame number adder for ~~adding~~ assigning a frame number to a frame to be transmitted, wherein said frame number is determined based on said reference clock timing prospectively adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the frame; and

a transmitter for transmitting the frame ~~with the frame number;~~

~~wherein the frame number is determined according to an expected delay time of the frame~~.

6. (currently amended) A frame receiving device comprising:

a receiver for receiving a frame having a frame number; ~~and~~

a clock for generating a reference clock timing indicative of the frame number of a received frame to be extracted; and

a frame extraction controller for extracting a received frame having a frame number identified based on the reference clock timing which is retrospectively adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the received frame

~~a frame synchronizer for executing a frame synchronization adjustment referring to the frame number;~~

~~wherein the frame synchronizer executes the synchronization adjustment according to an expected delay time required for the frame to reach the frame synchronizer~~.

7. (currently amended) A frame transmitting device comprising:

a clock generator for generating a first clock pulse used for providing a frame;

a frame number adder for ~~adding~~ assigning a frame number to a frame; and

a transmitter for transmitting to a receiver the frame ~~with~~ having the frame number;

wherein the frame number is determined ~~according to~~based on an expected delay time of the frame; and

wherein the expected delay time is equal to the sum of a maximum delay time estimated for the frame, and an estimated maximum phase difference between first clock pulse and a second clock pulse[[s]] being generated in the receiver.

8. (currently amended) A frame receiving device comprising:

a clock generator for generating a second clock pulse used for receiving

a receiver for receiving from a transmitter a frame having a frame number; and

a frame synchronizer for executing a frame synchronization adjustment ~~referring to~~based on the frame number;

wherein the frame synchronizer executes the synchronization adjustment ~~according to~~based on an expected delay time required for the frame to reach the frame synchronizer; and

wherein the expected delay time is equal to the sum of a maximum delay time estimated for the frame, and an estimated maximum phase difference between a first clock pulse being generated in the transmitter and the second clock pulse[[s]].

9-10. (cancelled)

11. (currently amended) A frame transmitting device comprising:

a clock for generating a reference clock timing;

a frame number adder for ~~adding~~ assigning a frame number to a frame, wherein said frame number is determined based on said reference clock timing adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the frame; and

a transmitter for transmitting the frame ~~with~~ to which ~~the~~ said frame number is assigned;

~~wherein the frame number is determined according to an expected delay time of the frame; and~~

wherein~~, when a real delay time exceeds the expected delay time,~~ the expected delay time is updated when a real delay time exceeds the expected delay time.

12. (currently amended) A frame receiving device comprising:

a receiver for receiving a frame having a frame number;

a clock for generating a reference clock timing indicative of the frame number of a received frame to be extracted; and

a frame extraction controller for extracting a received frame having a frame number identified based on the reference clock timing which is retrospectively adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the received frame;

~~a frame synchronizer for executing a frame synchronization adjustment referring to the frame number;~~

~~wherein the frame synchronizer executes the synchronization adjustment according to an expected delay time required for the frame to reach the frame synchronizer; and~~

wherein~~, when a real delay time exceeds the expected delay time,~~ the expected delay time is updated when a real delay time exceeds the expected delay time.

13. (currently amended) A. frame communication system comprising:

a frame number adder for ~~adding~~ assigning a frame number to a frame;

a transmitter for transmitting the frame ~~including~~ having the frame number;

a receiver for receiving the frame from the transmitter;

a frame synchronizer for executing a frame synchronization adjustment ~~referring to~~based on the frame number ~~included in~~assigned to the frame;

a receiver side clock circuit which provides first clock pulses;

a transmitter side clock circuit which provides second clock pulses in synchronization with the same phase or a different phase with respect to the first clock pulses provided by the receiver side clock circuit;

wherein the frame number adder ~~adds~~ assigns the frame number to the frames according to the first clock pulses, and the frame synchronizer executes the synchronization adjustment according to the second clock pulses;

a transmission control circuit which determines the frame number according to a correction value; and

a reception control circuit which provides an alarm signal to the transmission control circuit when the reception control circuit finds that the frame synchronizer is unable to achieve the synchronization adjustment,

wherein, when the transmission control circuit receives the alarm signal, the transmission control circuit updates the correction value.

14. (currently amended) A frame communication system comprising:

a frame number adder for ~~adding~~ assigning a frame number to a frame;

a transmitter for transmitting the frame ~~including~~ having the frame number;

a receiver for receiving the frame from the transmitter;

a frame synchronizer for executing a frame synchronization adjustment ~~referring to~~based on the frame number ~~included in~~assigned to the frame;

a receiver side clock circuit which provides first clock pulses;

a transmitter side clock circuit which provides second clock pulses in synchronization with the same phase or a different phase with respect to the first clock pulses provided by the receiver side clock circuit;

wherein the frame number adder adds the frame number to the frames according to the first clock pulses, and the frame synchronizer executes the synchronization adjustment according to the second clock pulses;

a transmission control circuit which determines the frame number according to a correction value;

a reception control circuit which provides an alarm signal to the transmission control circuit when the reception control circuit finds that the frame synchronizer is unable to achieve the synchronization adjustment,

wherein, when the transmission control circuit receives the alarm signal, the transmission control circuit updates the correction value;

at least one other frame number adder; and

a selection circuit which selects one frame from the frames provided by the plurality of frame number adders, and provides the selected frame to the frame synchronizer.

15. (currently amended) A. frame communication system comprising:

a frame number adder for ~~adding~~ assigning a frame number to a frame;

a transmitter for transmitting the frame ~~including~~ having the frame number;

a receiver for receiving the frame from the transmitter;

a frame synchronizer for executing a frame synchronization adjustment ~~referring to~~based on the frame number ~~included in~~assigned to the frame;

a receiver side clock circuit which provides first clock pulses;

a transmitter side clock circuit which provides second clock pulses in synchronization with the same phase or a different phase with respect to the first clock pulses provided by the receiver side clock circuit;

wherein the frame number adder ~~adds~~ assigns the frame number to the frames according to the first clock pulses, and the frame synchronizer executes the synchronization adjustment according to the second clock pulses;

a transmission control circuit which determines the frame number according to a correction value;

a reception control circuit which provides an alarm signal to the transmission control circuit when the reception control circuit finds that the frame synchronizer is unable to achieve the synchronization adjustment,

wherein, when the transmission control circuit receives the alarm signal, the transmission control circuit updates the correction value;

at least one other frame number adder;

a selection circuit which selects one frame from the frames provided by the plurality of frame number adders, and provides the selected frame to the frame synchronizer;

a combining circuit;

wherein the frame synchronizer executes synchronization adjustment of the plurality of frames provided by the frame number adders, and the combining circuit combines the adjusted frames into one frame.

16. (currently amended) A frame communication system comprising:

a frame number adder for ~~adding~~ assigns a frame number to a frame;

a transmitter for transmitting the frame ~~including~~ having the frame number;

a receiver for receiving the frame from the transmitter;

a frame synchronizer for executing a frame synchronization adjustment ~~referring to~~based on the frame number ~~included in~~assigned to the frame;

a receiver side clock circuit which provides first clock pulses;

a transmitter side clock circuit which provides second clock pulses in synchronization with the same phase or a different phase with respect to the first clock pulses provided by the receiver side clock circuit;

wherein the frame number adder ~~adds~~ assigns the frame number to the frames according to the first clock pulses, and the frame synchronizer executes the synchronization adjustment according to the second clock pulses;

a transmission control circuit which determines the frame number according to a correction value;

a reception control circuit which provides an alarm signal to the transmission control circuit when the reception control circuit finds that the frame synchronizer is unable to achieve the synchronization adjustment,

wherein, when the transmission control circuit receives the alarm signal, the transmission control circuit updates the correction value;

at least one other frame number adder;

a selection circuit which selects one frame from the frames provided by the plurality of frame number adders, and provides the selected frame to the frame synchronizer; and

further characterized in that the selection circuit selects one frame based on any information included in the frames.

17. (currently amended) A frame communication system comprising:

a frame number adder for ~~adding~~ assigning a frame number to a frame;

a transmitter for transmitting the frame ~~including~~ having the frame number;

a receiver for receiving the frame from the transmitter;

a frame synchronizer for executing a frame synchronization adjustment ~~referring to~~based on the frame number ~~included in~~assigned to the frame;

a copying means which copies a frame with the frame number, thereby creating a plurality of frames;

a plurality of physical or logical transmission routes which transmit the frames separately;

a plurality of radio transmitters which transmit the plurality of frames transmitted through the transmission routes, at timings determined by the frame number attached thereto; and

a plurality of terminals to receive in a diversity manner the frames transmitted from the radio transmitters.

18-24. (cancelled)

25. (currently amended) A frame receiving device comprising:

a receiver for receiving a frame ~~accompanying with~~having a frame number;

a clock for generating a reference clock timing indicative of the frame number of a received frame to be extracted; and

a frame extraction controller for extracting a received frame having a frame number identified based on the reference clock retrospectively adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the received frame;

~~a frame synchronizer for executing a frame synchronization adjustment referring to the frame number;~~

~~wherein the frame synchronizer executes the synchronization adjustment according to an expected delay time required for the frame to reach the frame synchronizer; and~~

wherein the expected delay time is determined ~~according to~~based on a difference ~~in timing~~ between a time identified by ~~the~~ a frame number ~~attached~~ assigned to a received frame ~~received in the past,~~ and an actual time of reception of ~~the same~~that frame.

26. (currently amended) A frame receiving device comprising:

a receiver for receiving a frame ~~accompanying with~~having a frame number;

a clock for generating a reference clock timing indicative of the frame number of a received frame to be extracted; and

a frame extraction controller for extracting a received frame having a frame number identified based on the reference clock timing which is retrospectively adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the received frame;

~~a frame synchronizer for executing a frame synchronization adjustment referring to the frame number;~~

~~wherein the frame synchronizer executes the synchronization adjustment according to an expected delay time required for the frame to reach the frame synchronizer;~~

~~wherein the expected delay time is determined according to a difference in timing between the frame number attached to a frame received in the past, and an actual time of reception of the same frame; and~~

wherein the expected delay time is ~~determined by obtaining~~obtained by adding a predetermined safety factor to a difference ~~in timing~~ between a time identified by ~~the~~ a frame number ~~attached~~ assigned to a received frame ~~received in the past,~~ and an actual time of reception of ~~the same~~that frame~~, and by adding a predetermined safety factor to the difference~~.

27-36. (cancelled)

37. (currently amended) A frame transmitting device comprising:

a clock for generating a reference clock timing;

a frame number adder for ~~adding~~ assigning a frame number to a frame, wherein said frame number is determined based on said reference clock timing adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the frame; and

a transmitter for transmitting the frame ~~with~~ to which ~~the~~ said frame number is assigned;

~~wherein the frame number is determined according to an expected delay time of the frame;~~

wherein~~, when a real delay time exceeds the expected delay time,~~ the expected delay time is updated when a real delay time exceeds the expected delay time; and

wherein a time length ~~introduced~~ used for updating the expected delay time is constant regardless of an overtime of a real delay time exceeding the expected delay time.

38. (currently amended) A frame receiving device comprising:

a receiver for receiving a frame ~~accompanying with~~having a frame number;

a clock for generating a reference clock timing indicative of the frame number of a received frame to be extracted; and

a frame extraction controller for extracting a received frame having a frame number identified based on the reference clock timing which is retrospectively adjusted by an expected delay time which is equal to or larger than a maximum transmission delay of the received frame;

~~a frame synchronizer for executing a frame synchronization adjustment referring to the frame number;~~

~~wherein the frame synchronizer executes the synchronization adjustment according to an expected delay time required for the frame to reach the frame synchronizer;~~

wherein~~, when a real delay time exceeds the expected delay time,~~ the expected delay time is updated when a real delay time exceeds the expected delay time; and

wherein a time length ~~introduced~~ used for updating the expected delay time is constant regardless of an overtime of a real delay time exceeding the expected delay time.

39. (cancelled)

40. (previously presented) A communication system for synchronous communication between each of base stations and a switching center, which is performed on the basis of frames, wherein; each of said base stations comprises:

a frame number generator for generating a plurality of frame numbers each of which identifies each of frame periods;

an uplink frame generator for generating uplink frame by adding to a frame for transmission said frame number corresponding to start timing of the uplink frame as an uplink number; and

a transmitter for transmitting said uplink frame; and said switching center comprises:

a buffer for receiving and storing said uplink frame transmitted from said base stations; and

a frame extraction unit for determining timing of extraction of said uplink frame from said buffer, on the basis of an estimated delay of communication between said base stations and said switching center and said frame number added to received uplink frame and extracting said uplink frame from said buffer at determined timing

41. (previously presented) A communication system for synchronous communication between each of base stations and a switching center performed on the basis of frame, wherein; each of said base stations comprises:

a first generator for generating a first base clock used for said base station;

a first frame number generator for generating a plurality of frame numbers each of which identifies each of frame periods;

an uplink frame generator for generating an uplink frame by adding to a frame for transmission said frame number corresponding to start timing of the uplink frame, as an uplink frame number; and

a transmitter for transmitting said uplink frame; and

said switching center comprises:

an second clock generator for generating a second base clock used for said switching center being synchronous with said first base clock;

a second frame number generator for generating, on the basis of said second base clock, a plurality of second frame numbers each of which identifies each frame period;

a buffer for receiving and storing said uplink frame transmitted from said base stations;

a correction unit for generating, on the basis of each estimated delay due to communication between each of said base stations and said switching center, a corrected frame number made by correcting said second frame number and offset information on time difference relative to a beginning of said corrected frame number; and

a second frame extraction unit for extracting from said buffer said uplink frame having an uplink frame number which is same as said corrected frame number according to timing indicated by said offset information.

42. (previously presented) The communication system of claim 41, wherein said switching center comprises:

a storage for storing estimated delays each due to communication between each of said base stations and said switching center; and

a determination unit for obtaining, by referring to said storage, a maximum value of said expected delays on the basis of attributes of said base stations with which said switching center should communicate; and

said correction unit generates, on the basis of said maximum value, a corrected frame number made by correcting said second frame number and offset information on time difference relative to a beginning of said corrected frame number.

43. (previously presented) A communication system for synchronous communication between each of base stations and a switching center performed on the basis of frame periods, wherein; each of said base stations comprises:

a first frame number generator for generating a plurality of frame numbers each of which identifies each of frame periods;

an uplink frame generator for generating a uplink frame by adding to a frame for transmission whose length is dependent on type of service;

said first frame number corresponding to start timing of said uplink frame as an uplink frame number; and

a transmitter for transmitting said uplink frame; and

said switching center comprises:

a buffer for receiving and storing said uplink frame transmitted from said base stations;

a frame extraction unit for obtaining an estimated delay due to communication between each of said base stations and said switching center according to type of service and attributes of the base station, determining timing of extraction of said uplink frame from said buffer, on the basis of said estimated delay and said frame number added to received uplink frame, and extracting said uplink frame from said buffer at determined timing.

44. (previously presented) A communication system for synchronous communication between each of base stations and a switching center performed on the basis of frame, wherein each of said base stations comprises:

a first generator for generating a first base clock used for said base station;

a first frame number generator for generating a plurality of frame numbers each of which identifies each of frame periods;

an uplink frame generator for generating an uplink frame by adding to a frame for transmission whose length is dependent on type of service said frame number corresponding to start timing of the uplink frame as an uplink frame number; and

a transmitter for transmitting said uplink frame; and

said switching center comprises:

a second clock generator for generating a second base being synchronous with said first clock;

a buffer for receiving and storing said uplink frame transmitted from said base stations;

a correction unit for generating, on the basis of an estimated delay due to communication between each of said base stations and said switching center, a corrected frame number made by correcting said second frame number and offset information on time difference relative to a beginning of said corrected frame number; and

a second frame extraction unit for extracting from said buffer uplink frames having uplink a frame number which is same as said corrected frame number according to timing indicated by said offset information.

45. (previously presented) The communication system of claim 44, wherein said switching center comprises:

a storage for storing estimated delays each due to communication between each of said base stations and said switching center corresponding to types of service; and

a determination unit for obtaining, by referring to said storage, a maximum value of said expected delays on the basis of types of service and attributes of said base stations with which said switching center should communicate; and

said correction unit generates, on the basis of said maximum value, a corrected frame number made by correcting said second frame number and offset information on time difference relative to a beginning of said corrected frame number.

46. (previously presented) The communication system of claim 44, wherein said switching center further comprises a delay detection unit for detecting a delay in reception of said uplink frame by comparing said second frame number with a received uplink frame number; and

when said delay detection unit detects a delay, said correction unit decreases said corrected frame number.

47. (previously presented) The communication system of claim 46, wherein when said delay detection unit detects a delay, said correction unit decreases said corrected frame number by an amount corresponding to a type of service.

48. (previously presented) The communication system of any one of claims 40, 41 and 43 wherein said uplink frame generator generates said uplink frame by adding information on reliability to the frame for transmission; and

said switching center further comprises a combining unit for combining said uplink frames extracted from said buffer, on the basis of said information on reliability each of which is added to each frame, to generate one uplink frame.

49. (cancelled)

50. (previously presented) A switching center provided for a frame communication system in which a plurality of base stations and said switching center carry out synchronous communication on the basis of frames comprising:

a clock generator for generating a base clock used for said switching center;

a frame number generator for generating, on the basis of said base clock, a plurality of frame numbers each of which identifies each frame period;

a buffer for receiving and storing said uplink frame transmitted from said base stations;

a correction unit for obtaining an estimated delay due to communication between each of said base stations and said switching center according to service and the base station, generating, on the basis of an estimated delay time due to communication between each of said base stations and said switching center, a corrected frame number made by correcting said frame number and offset information on time difference from a beginning of the corrected frame number; and

a frame synchronizer for extracting from said buffer uplink a frame having an uplink frame number which is same as said corrected frame number according to timing indicated by said offset information.

51. (previously presented) A communication system in which each of base stations and a switching center carries out synchronous communication on the basis of frame periods, wherein said switching center comprises:

a first frame number generator for generating a plurality of first frame numbers each of which identifies each frame period;

a first buffer for receiving and storing frames for transmission;

a correction unit for generating, on the basis of an estimated delay due to communication between each of said base stations and said switching center, a corrected frame number made by correcting said second frame number and offset information on time difference relative to a beginning of said frame period;

a first frame extraction unit for extracting from said first buffer said frame for transmission and adding said corrected frame number to an extracted frame for transmission as a downlink frame number, to generate a downlink frame; and

a transmitter for transmitting said downlink frame; and

each of said base stations comprises:

a second buffer for receiving and storing said downlink frame;

a second frame number generator for generating a plurality of second frame numbers each of which identifies each frame period; and

a second frame extraction unit for extracting from said second buffer a downlink frame having a downlink frame number which is same as said corrected frame number according to a start timing of the frame period.

52. (previously presented) The communication system of claim 51, wherein said switching center further comprises a first clock generator for generating a first base clock used for said switching center; and

said first frame number generator generates, on the basis of said first base clock, a plurality of first frame numbers each of which identifies each frame period; and

each of said base stations further comprises a second clock generator for generating a second base clock synchronous with said first base clock; and

said second frame number generator generates a plurality of first frame numbers each of which identifies each frame period on the basis of said first base clock.

53. (previously presented) The communication system of claim 51, wherein said switching center comprises:

a storage for storing estimated delays each due to communication between each of said base stations and said switching center corresponding to types of service; and

a determination unit for obtaining, by referring to said storage, a maximum value of said expected delays, on the basis of said plurality of base stations with which said switching center should communicate and types of service; and

said correction unit generates a corrected frame number made by correcting said second frame number and offset information on time difference from a beginning of said frame period.

54. (previously presented) The communication system of claim 53, wherein each of said base stations further comprises:

a control unit for comparing said second frame number with the received downlink frame number when detecting delay of reception of the downlink frame, to generate a request for correction of downlink frame number; and

a transmitter for transmitting said request to said switching center; and

upon receipt of said request, said correction unit increases said corrected frame number.

55. (previously presented) The communication system of claim 54, wherein upon receipt of said request, said correction unit increases said corrected frame number by an amount corresponding to said type of service.

56. (previously presented) The communication system of any one of claims 40, 41, 43, 44 and 51, wherein said estimated delay includes a maximum value of possible phase differences between said first and said second base clock.

57. (previously presented) The communication system of any one of claims 43, 44 and 53, further comprising a plurality of transmission channels, each of which connects each of said base stations and said switching center; and wherein each of said transmission channels divides said uplink frame into cells each having a fixed length to transmit, assembles divided cells to generate said uplink frame, and transmits the uplink frame.

58. (cancelled)

59. (previously presented) A switching center provided for a communication system, which carries out synchronous communication with a plurality of base stations on the basis of frame period comprising:

a clock generator for generating a base clock used for said switching center;

a frame number generator for generating a plurality of frame numbers each of which identifies each frame period on the basis of said base clock;

a buffer for receiving and storing frames for transmission;

a correction unit for obtaining, on the basis of a type of service and attributes of said base station, an estimated delay due to communication between the base station and said switching center, and generating a corrected frame number made by correcting said second frame number and offset information on time difference from a beginning of said frame period; and

a downlink frame generator for generating a downlink frame by extracting said frame for transmission from said buffer according to timing indicated by said offset information and adding said corrected frame number to said extracted frame as a downlink frame number.

60. (previously presented) A method for a communication in which each of base stations and a switching center carries out synchronous communication on the basis of frames comprising the steps of:

generating a plurality of frame numbers each of which identifies each of frame periods by said base station;

generating an uplink frame by adding said frame number corresponding to start timing of said uplink frame to a frame for transmission as an uplink frame number by said base station;

transmitting said uplink frame by said base station;

receiving said uplink frame by said switching center; and

adjusting synchronization of said uplink frame, on the basis of an estimated delay due to communication between said base station and said switching center and a frame number added to said received uplink frame by said switching center.

61. (previously presented) A method for a communication in which each of base stations and a switching center carries out synchronous communication on the basis of frames comprising the steps of:

generating a frame number to identify each of said frame periods by said base station;

generating an uplink frame by adding said frame number corresponding to start timing of an uplink frame to a frame for transmission as an uplink frame number by said base station;

transmitting said uplink frame by said base center;

receiving said uplink frame by said switching center;

obtaining an estimated delay due to communication between said base station and said switching center, on the basis of a type of service and attributes of said base station by a switching center; and

adjusting synchronization of said uplink frame on the basis of said estimated delay and said uplink frame number which is added to said received uplink frame by said switching center.

62. (previously presented) A method for a communication in which each of base stations and a switching center carries out synchronous communication on the basis of frames comprising the steps of:

said base station generating a first base clock used for the base station;

generating a plurality of first frame numbers each of which identifies each frame period on the basis of said first base clock;

generating an uplink frame by adding to frame for transmission said first frame number corresponding to start timing of said uplink frame as a uplink frame number; and

transmitting said uplink frame; and

said switching center generating a second base clock used for said switching center;

generating a second frame number to identify said frame period on the basis of said second frame clock;

obtaining an estimated delay due to communication between each of said base station and said switching center, on the basis of a type of service and attributes of the base station;

generating a corrected frame number made by correcting said second frame number and offset information on time difference relative to a beginning of said frame period; and

extracting from said buffer an uplink frame having a same frame number as said corrected frame number at timing indicated by said offset information.

63. (previously presented) A method for a frame communication in which each of base stations and a switching center carries out synchronous communication on the basis of frames comprising the steps of:

said switching center generating a first frame number to identify each frame period;

receiving and storing into a first buffer frames for transmission;

generating a corrected frame number made by correcting said second frame number and offset information on time difference relative to a beginning of said frame period, on the basis of an estimated delay due to communication between each of said base stations and said switching center; and

extracting from said first buffer said frame for transmission at timing indicated by said offset information;

generating a downlink frame by adding said corrected frame number to said extracted frame for transmission; and

transmitting said downlink frame; and

said base station receiving and storing into a second buffer said down link frame;

generating a plurality of second frame numbers each of which identifies each frame period;

extracting from said second buffer a downlink frame having a same number as said second frame number at start timing of said frame period.

64. (previously presented) A method for a frame communication in which each of base stations and a switching center carries out synchronous communication on the basis of frames comprising the steps of:

said switching center generating a plurality of first frame numbers each of which identifies each frame period;

receiving and storing into a first buffer frames for transmission;

storing estimated delays due to communication between each of said base stations and said switching center corresponding to types of service;

obtaining a maximum value of said estimated delays by referring to said first buffer, on the basis of types of communication and attributes of said base stations with which said switching center should communicate;

generating a corrected frame number made by correcting said first frame number and offset information on time difference relative to a beginning of each frame period on the basis of said maximum value;

extracting from said first buffer a frame for transmission at timing indicated by said offset information;

generating a downlink frame by adding said corrected frame number to said extracted frame for transmission as a downlink frame number;

transmitting said downlink number; and

each of said base stations receiving and storing to a second buffer said downlink frame;

generating a plurality of second frame numbers each of which identifies each frame period; and

extracting from said second buffer a downlink frame having a same downlink number as said second frame number at start of timing of said frame period.